What is claimed is:

1. A contact lens, comprising an anterior surface and an opposite posterior surface, wherein at least one of the anterior and posterior surface includes a vertical meridian, a horizontal meridian, and a central optical zone, wherein the central optical zone has a top boundary, a bottom boundary, a distance vision zone and a rotationally-asymmetrical progressive zone adjacent to the distance vision zone,
   wherein the distance vision zone is located in the upper portion of the central optical zone and provides a distance power for distance vision correction,
   wherein the rotationally-asymmetrical progressive zone is located in the lower portion of the central optical zone and provides a variable intermediate vision correction and near vision correction.
2. The contact lens of claim 1, wherein the rotationally-asymmetrical progressive zone has an upper boundary, a lower boundary, a radial center, an upper vertically radiating semi-meridian and a lower vertically radiating semi-meridian, and wherein the rotationally-asymmetrical progressive zone further has a surface that provides a power profile that increases, along the upper vertically radiating semi-meridian, from the distance power at the upper boundary to a near power at the radial center and remains substantially constant from the radial center to a point near the lower boundary along the lower vertically radiating semi-meridian.
3. The contact lens of claim 2, wherein the anterior surface includes the vertical meridian, the horizontal meridian, and the central optical zone having the top boundary, the bottom boundary, the distance vision zone and the rotationally-asymmetrical progressive zone adjacent to the distance vision zone.
4. The contact lens of claim 2, wherein the central optical zone is a circular zone which is concentric with the geometric center of the anterior or posterior surface, or the center of which is deviated from the geometric center of the anterior or posterior surface by up to 2 mm.
5. The contact lens of claim 4, wherein the circular central optical zone is concentric with the geometric center of the anterior or posterior surface.
6. The contact lens of claim 3, wherein the distance zone extends downwardly from the top boundary of the central optical zone; wherein the lower boundary line of the distance zone with the rotationally-asymmetrical progressive zone is at or slightly

below a horizontal line passing through the center of the central optical zone and parallel with the horizontal meridian, at least in its central portion.

7. The contact lens of claim 6, wherein the apex of the distance vision zone coincides with the center of the central optical zone and wherein the optical axis of the lens passes through the apex of the distance vision zone and the center of the optical zone of the posterior surface.
8. The contact lens of claim 3, wherein the radial center is located below the center of the central optical zone and on the vertical meridian or a line parallel to the vertical meridian and passing through the center of the central optical zone, and wherein the distance between the radial center and the optical axis of the lens, the optical axis passing through the center of the central optical zone, is about 2.0 mm or less.
9. The contact lens of claim 3, wherein the central optical zone is characterized by that the lateral separation between images from the distance vision zone and the rotationally-asymmetrical progressive zone is minimized or eliminated so as to minimize or eliminate ghost images.
10. The contact lens of claim 9, wherein a first line passing through the radial center and the center of curvature at the radial center intersects the optical axis of the lens, wherein the intersection point is within 2 mm or less of the center of curvature at the apex of the posterior surface.
11. The contact lens of claim 10, wherein the intersection point of the first line with the optical axis is within 0.5 mm or less of the center of curvature at the apex of the posterior surface.
12. The contact lens of claim 3, wherein the rotationally-asymmetrical progressive zone is tangent to the distance vision zone at any point along the upper and lower boundaries of the rotationally-asymmetrical progressive zone.
13. The contact lens of claim 3, wherein the rotationally-asymmetrical progressive zone has a surface that provides a power addition profile, along the upper vertically radiating semi-meridian, which is defined by defined by two or more linear functions of equation (1) or by equation (2) or equation (3)

$$\begin{cases} p(x)=b_1+k_1x & 0 \le x < x_1 \\ p(x)=b_2+k_2x & x_1 \le x < x_2 \\ \vdots & \\ p(x)=b_i+k_ix & x_{i-1} \le x < x_i \\ \vdots & \end{cases} \qquad (1)$$

$$p(x)=\frac{A}{2}\cdot\cos\left(\frac{x}{X_o}\pi\right)+\frac{A}{2} \qquad (2)$$

$$p(x)=A\cdot\left[1-\left(\frac{x}{X_o}\right)^n\right] \qquad (3)$$

in which p(x) is an added power at a radial distance of x from the radial center; b_i is a coefficient which is the intercept of a linear line; k_i is the rate of change of the added power as function of the distance from the radial center; A is the maximum added power; X_o is a radial distance between the radial center and the optical axis; and n is any number which can be an integer or non-integer larger than 1 but smaller than or equal to 10.

14. The contact lens of claim 3, wherein the contact lens comprises one or more orientation or stabilization features.
15. The contact lens of claim 14, wherein said one or more orientation/stabilization features are selected from the group consisting of: a prism ballast or the like that uses a varying thickness profile to control the lens orientation; a faceted surface in which parts of the lens geometry is removed to control the lens orientation; a ridge feature which orients the lens by interacting with the eyelid; double slab-off features which have a top slab-off zone and a bottom slab-off zone zones to maintain the lens orientation on the eye; and non-prism ballast features in the peripheral zone of the lens, the peripheral zone surrounding the optical zone of the lens.
16. The contact lens of claim 14, wherein the contact lens comprises on the anterior surface of the lens a ramped ridge zone which is disposed below the optical zone and includes an upper boundary, a lower ramped boundary, a latitudinal ridge that extends outwardly from the anterior surface, and a ramp that extends dowardly from the lower ramped boundary and has a curvature or slope that provides a varying degree of

interaction between the ramped ridge zone and the lower eyelid of an eye depending on where the lower eyelid strikes the ramped ridge zone.

17. The contact lens of claim 14, wherein the anterior surface comprises a blending zone extending outwardly from the central optical zone, a peripheral zone surrounding the blending zone, and an boundary zone circumscribing and tangent to the peripheral zone,

    wherein the blending zone has a surface which ensures that the peripheral zone, the blending zone and the central optical zone are tangent to each other, wherein the peripheral zone has a surface that, in combination with the posterior surface, provides in the peripheral zone of the lens a thickness profile which is characterized (1) by having a lens thickness which increases progressively from the top of the lens downwardly along each of the vertical meridian and lines parallel to the vertical meridian until reaching a maximum value at a position between the anterior optical zone and the boundary zone and then decreases to the boundary of the boundary zone, or (2) by having a mirror symmetry with respect to a plane cutting through the vertical meridian, by having a substantially constant thickness in a region around the horizontal meridian and by having a thickness which decreases progressively from the horizontal meridian to the top or bottom of the contact lens along each of the vertical meridian and lines parallel to the vertical meridian.

18. The contact lens of claim 2, wherein the contact lens is a hard or soft lens.

19. An intraocular lens, comprising a central optical zone, the central optical zone having a first surface and an opposite second surface,

    wherein at least one of the first and second surfaces includes a top boundary, a bottom boundary, a vertical meridian, a horizontal meridian, a distance vision zone and a rotationally-asymmetrical progressive zone adjacent to the distance vision zone;

    wherein the distance vision zone is located in the upper portion of the central optical zone and provides a distance power for distance vision correction;

    wherein the rotationally-asymmetrical progressive zone is located in the lower portion of the optical zone and provides a variable intermediate vision correction and near vision correction.

20. The intraocular lens of claim 19, wherein the rotationally-asymmetrical progressive zone has an upper boundary, a lower boundary, a radial center located in the vertical meridian and below the center of the optical zone, and wherein the rotationally-asymmetrical progressive zone further has a surface that provides a power profile that increases, along the vertical meridian, from the distance power at the upper boundary to a near power at the radial center and then remains substantially constant from the radial center to a point near the lower boundary along the vertical meridian.
21. The intraocular lens of claim 20, wherein the distance zone extends downwardly from the top boundary of the central optical zone; wherein the lower boundary line of the distance zone with the rotationally-asymmetrical progressive zone is at or slightly below a horizontal line passing through the center of the central optical zone and parallel with the horizontal meridian, at least in its central portion.
22. The intraocular lens of claim 21, wherein the apex of the distance vision zone coincides with the center of the central optical zone and wherein the optical axis of the lens passes through the apex of the distance vision zone and the center of the optical zone of the posterior surface.
23. The intraocular lens of claim 20, wherein the radial center is located below the center of the central optical zone and on the vertical meridian, and wherein the distance between the radial center and the optical axis of the lens is about 2.0 mm or less.
24. The intraocular lens of claim 20, wherein the central optical zone is characterized by that the lateral separation between images from the distance vision zone and the rotationally-asymmetrical progressive zone is minimized or eliminated so as to minimize or eliminate ghost images.
25. The intraocular lens of claim 24, wherein a first line passing through the radial center and the center of curvature at the radial center intersects the optical axis of the lens, wherein the intersection point is within 2 mm or less of the center of curvature at the apex.
26. The intraocular lens of claim 20, wherein the rotationally-asymmetrical progressive zone is tangent to the distance vision zone at any point along the upper and lower boundaries of the rotationally-asymmetrical progressive zone.
27. The intraocular lens of claim 20, wherein the rotationally-asymmetrical progressive zone has a surface that provides a power addition profile, along the upper vertically

radiating semi-meridian, which is defined by defined by two or more linear functions of equation (1) or by equation (2) or equation (3)

$$\begin{cases} p(x)=b_1+k_1x & 0\le x<x_1 \\ p(x)=b_2+k_2x & x_1\le x<x_2 \\ \vdots & \\ p(x)=b_i+k_ix & x_{i-1}\le x<x_i \\ \vdots & \end{cases} \tag{1}$$

$$p(x)=\frac{A}{2}\cdot\cos\left(\frac{x}{X_o}\pi\right)+\frac{A}{2} \tag{2}$$

$$p(x)=A\cdot\left[1-\left(\frac{x}{X_o}\right)^n\right] \tag{3}$$

in which p(x) is an added power at a radial distance of x from the radial center; b_i is a coefficient which is the intercept of a linear line; k_i is the rate of change of the added power as function of the distance from the radial center; A is the maximum added power; X_o is a radial distance between the radial center and the optical axis; and n is any number which can be an integer or non-integer larger than 1 but smaller than or equal to 10.

28. The intraocular lens of claim 20, wherein the intraocular lens is a phakic or aphakic intraocular lens.
29. The intraocular lens of claim 28, wherein the phakic or aphakic intraocular lens comprises haptics.
30. A method for producing a contact lens capable of correcting presbyopia, comprising the steps of designing the anterior surface and the posterior surface of the contact lens, wherein at least one of the anterior and posterior surface includes a vertical meridian, a horizontal meridian, and a central optical zone,

    wherein the central optical zone has a top boundary, a bottom boundary, a distance vision zone and a rotationally-asymmetrical progressive zone adjacent to the distance vision zone;

    wherein the distance vision zone is located in the upper portion of the central optical zone and provides a distance power for distance vision correction;

wherein the rotationally-asymmetrical progressive zone is located in the lower portion of the central optical zone and provides a variable intermediate vision correction and near vision corrections.

31. The method of claim 30, wherein the rotationally-asymmetrical progressive zone has an upper boundary, a lower boundary, a radial center, an upper vertically radiating semi-meridian and a lower vertically radiating semi-meridian, and wherein the rotationally-asymmetrical progressive zone further has a surface that provides a power profile that increases, along the upper vertically radiating semi-meridian, from the distance power at the upper boundary to a near power at the radial center and remains substantially constant from the radial center to a point near the lower boundary along the lower vertically radiating semi-meridian.
32. The method of claim 31, wherein the anterior surface includes the vertical meridian, the horizontal meridian, and the central optical zone having the top boundary, the bottom boundary, the distance vision zone and the rotationally-asymmetrical progressive zone adjacent to the distance vision zone.
33. The method of claim 32, wherein the central optical zone is a circular zone which is concentric with the geometric center of the anterior or posterior surface, or the center of which is deviated from the geometric center of the anterior or posterior surface by up to 2 mm.
34. The method of claim 32, wherein the distance zone extends downwardly from the top boundary of the central optical zone; wherein the lower boundary line of the distance zone with the rotationally-asymmetrical progressive zone is at or slightly below a horizontal line passing through the center of the central optical zone and parallel with the horizontal meridian, at least in its central portion.
35. The method of claim 34, wherein the apex of the distance vision zone coincides with the center of the central optical zone and wherein the optical axis of the lens passes through the apex of the distance vision zone and the center of the optical zone of the posterior surface.
36. The method of claim 32, wherein the radial center is located below the center of the central optical zone and on the vertical meridian or a line parallel to the vertical meridian and passing through the center of the central optical zone, and wherein the distance between the radial center and the optical axis of the lens, the optical axis passing through the center of the central optical zone, is about 2.0 mm or less.

37. The method of claim 32, wherein the central optical zone is characterized by that the lateral separation between images from the distance vision zone and the rotationally-asymmetrical progressive zone is minimized or eliminated so as to minimize or eliminate ghost images.
38. The method of claim 32, wherein a first line passing through the radial center and the center of curvature at the radial center intersects the optical axis of the lens, wherein the intersection point is within 2 mm or less of the center of curvature at the apex of the posterior surface.
39. The method of claim 32, wherein the rotationally-asymmetrical progressive zone is tangent to the distance vision zone at any point along the upper and lower boundaries of the rotationally-asymmetrical progressive zone.
40. The method of claim 32, wherein the rotationally-asymmetrical progressive zone has a surface that provides a power addition profile, along the upper vertically radiating semi-meridian, which is defined by defined by two or more linear functions of equation (1) or by equation (2) or equation (3)

$$\begin{cases} p(x)=b_1+k_1x & 0\le x<x_1 \\ p(x)=b_2+k_2x & x_1\le x<x_2 \\ \vdots & \\ p(x)=b_i+k_ix & x_{i-1}\le x<x_i \\ \vdots & \end{cases} \tag{1}$$

$$p(x)=\frac{A}{2}\cdot\cos\left(\frac{x}{X_o}\pi\right)+\frac{A}{2} \tag{2}$$

$$p(x)=A\cdot\left[1-\left(\frac{x}{X_o}\right)^n\right] \tag{3}$$

in which p(x) is an added power at a radial distance of x from the radial center; b_i is a coefficient which is the intercept of a linear line; k_i is the rate of change of the added power as function of the distance from the radial center; A is the maximum added power; X_o is a radial distance between the radial center and the optical axis; and n is any number which can be an integer or non-integer larger than 1 but smaller than or equal to 10.

41. The method of claim 32, wherein the contact lens comprises one or more orientation or stabilization features.
42. The method of claim 41, wherein said one or more orientation/stabilization features are selected from the group consisting of: a prism ballast or the like that uses a varying thickness profile to control the lens orientation; a faceted surface in which parts of the lens geometry is removed to control the lens orientation; a ridge feature which orients the lens by interacting with the eyelid; double slab-off features which have a top slab-off zone and a bottom slab-off zone zones to maintain the lens orientation on the eye; and non-prism ballast features in the peripheral zone of the lens, the peripheral zone surrounding the optical zone of the lens.
43. The method of claim 41, wherein the contact lens comprises on the anterior surface of the lens a ramped ridge zone which is disposed below the optical zone and includes an upper boundary, a lower ramped boundary, a latitudinal ridge that extends outwardly from the anterior surface, and a ramp that extends dowardly from the lower ramped boundary and has a curvature or slope that provides a varying degree of interaction between the ramped ridge zone and the lower eyelid of an eye depending on where the lower eyelid strikes the ramped ridge zone.
44. The method of claim 41, wherein the anterior surface comprises a blending zone extending outwardly from the central optical zone, a peripheral zone surrounding the blending zone, and an boundary zone circumscribing and tangent to the peripheral zone,

    wherein the blending zone has a surface which ensures that the peripheral zone, the blending zone and the central optical zone are tangent to each other, wherein the peripheral zone has a surface that, in combination with the posterior surface, provides in the peripheral zone of the lens a thickness profile which is characterized (1) by having a lens thickness which increases progressively from the top of the lens downwardly along each of the vertical meridian and lines parallel to the vertical meridian until reaching a maximum value at a position between the anterior optical zone and the boundary zone and then decreases to the boundary of the boundary zone, or (2) by having a mirror symmetry with respect to a plane cutting through the vertical meridian, by having a substantially constant thickness in a region around the horizontal meridian and by having a thickness which decreases progressively from the horizontal meridian to the top or

bottom of the contact lens along each of the vertical meridian and lines parallel to the vertical meridian.

45. The method of claim 41, further comprising the steps of producing the ophthalmic lens by a manufacturing means.
46. The method of claim 45, wherein the manufacturing means is a computer-controllable manufacturing device.
47. The method of claim 46, wherein the computer controllable manufacturing device is a numerically controlled lathe.
48. A method for producing an intraocular lens capable of correcting presbyopia, comprising the steps of: designing the intraocular lens which comprises a central optical zone, the central optical zone having a first surface and an opposite second surface,

    where at least one of the first and second surfaces includes a top boundary, a bottom boundary, a vertical meridian, a horizontal meridian, a distance vision zone and a rotationally-asymmetrical progressive zone adjacent to the distance vision zone;

    wherein the distance vision zone is located in the upper portion of the central optical zone and provides a distance power for distance vision correction;

    Wherein the rotationally-asymmetrical progressive zone is located in the lower portion of the central optical zone and provides a variable intermediate vision correction and near vision correction.
49. The method of claim 48, wherein the rotationally-asymmetrical progressive zone has an upper boundary, a lower boundary, a radial center located in the vertical meridian and below the center of the optical zone, and wherein the rotationally-asymmetrical progressive zone further has a surface that provides a power profile that increases, along the vertical meridian, from the distance power at the upper boundary to a near power at the radial center, and then remains substantially constant from the radial center to a point near the lower boundary along the vertical meridian.
50. The method of claim 49, wherein the distance zone extends downwardly from the top boundary of the central optical zone; wherein the lower boundary line of the distance zone with the rotationally-asymmetrical progressive zone is at or slightly below a horizontal line passing through the center of the central optical zone and parallel with the horizontal meridian, at least in its central portion.

51. The method of claim 50, wherein the apex of the distance vision zone coincides with the center of the central optical zone and wherein the optical axis of the lens passes through the apex of the distance vision zone and the center of the optical zone of the posterior surface.
52. The method of claim 49, wherein the radial center is located below the center of the central optical zone and on the vertical meridian, and wherein the distance between the radial center and the optical axis of the lens is about 2.0 mm or less.
53. The method of claim 49, wherein the central optical zone is characterized by that the lateral separation between images from the distance vision zone and the rotationally-asymmetrical progressive zone is minimized or eliminated so as to minimize or eliminate ghost images.
54. The method of claim 54, wherein a first line passing through the radial center and the center of curvature at the radial center intersects the optical axis of the lens, wherein the intersection point is within 2 mm or less of the center of curvature at the apex.
55. The method of claim 49, wherein the rotationally-asymmetrical progressive zone is tangent to the distance vision zone at any point along the upper and lower boundaries of the rotationally-asymmetrical progressive zone.
56. The method of claim 49, wherein the rotationally-asymmetrical progressive zone has a surface that provides a power addition profile, along the vertical meridian, which is defined by two or more linear functions of equation (1) or by equation (2) or (3)

$$\begin{cases} p(x)=b_1+k_1x & 0\le x<x_1 \\ p(x)=b_2+k_2x & x_1\le x<x_2 \\ \vdots & \\ p(x)=b_i+k_ix & x_{i-1}\le x<x_i \\ \vdots & \end{cases} \qquad (1)$$

$$p(x)=\frac{A}{2}\cdot\cos\left(\frac{x}{X_o}\pi\right)+\frac{A}{2} \qquad (2)$$

$$p(x)=A\cdot\left[1-\left(\frac{x}{X_o}\right)^n\right] \qquad (3)$$

in which p(x) is an added power at a radial distance of x from the radial center; b_i is a coefficient which is the intercept of a linear line; k_i is the rate of change of the

added power as function of the distance from the radial center; A is the maximum added power; X_o is a radial distance between the radial center and the optical axis; and n is any number which can be an integer or non-integer larger than 1 but smaller than or equal to 10.

57. The method of claim 49, further comprising the steps of producing the ophthalmic lens by a manufacturing means.
58. The method of claim 57, wherein the manufacturing means is a computer-controllable manufacturing device.
59. The method of claim 58, wherein the computer controllable manufacturing device is a numerically controlled lathe.
60. A method for correcting presbyopia, comprising the steps of: reshaping the central vision area of the cornea of an eye to produce an optical zone, which includes a vertical meridian, a horizontal meridian, a top boundary, a bottom boundary, a distance vision zone and a rotationally-asymmetrical progressive zone adjacent to the distance vision zone,

    wherein the distance vision zone is located in the upper portion of the central vision area and provides a distance power for distance vision correction;

    wherein the rotationally-asymmetrical progressive zone is located in the lower portion of the central vision area and provides a variable intermediate vision correction and near vision correction; wherein the rotationally-asymmetrical progressive zone has an upper boundary, a lower boundary, a radial center located in the vertical meridian of the central vision area and below the center of the central vision area; and

    wherein the rotationally-asymmetrical progressive zone further has a surface that provides a power profile that increases, along the vertical meridian, from the distance power at the upper boundary to a near power at the radial center, and then remains substantially constant from the radial center to a point near the lower boundary along the vertical meridian.

61. The method of claim 60, wherein the step of reshaping occurs by cornea ablation or collagen shrinkage.
62. The method of claim 61, wherein the step of reshaping occurs by cornea ablation.
63. The method of claim 62, wherein the ablation is performed by applying an excimer laser, surgical laser, water cutting, fluid cutting, liquid cutting or gas cutting technique.

64. The method of claim 62, wherein the ablation is performed by controlling energy distribution of a laser beam on an optical surface of the cornea.
65. The method of claim 62, wherein the ablation is performed by controlling a flying spot laser pattern on an optical surface of the cornea.
66. The method of claim 62, wherein the ablation is by controlling angle of ablation on an optical surface of the cornea.
67. The method of claim 60, wherein the distance zone extends downwardly from the top boundary of the central vision area; wherein the lower boundary line of the distance zone with the rotationally-asymmetrical progressive zone is at or slightly below a horizontal line passing through the center of the central vision area and parallel with the horizontal meridian, at least in its central portion.
68. The method of claim 67, wherein the apex of the distance vision zone coincides with the center of the central vision area.
69. The method of claim 60, wherein the radial center is located below the center of the central vision area and on the vertical meridian, and wherein the radial distance between the radial center and the center of the central vision area is about 2.0 mm or less.
70. The method of claim 60, wherein the rotationally-asymmetrical progressive zone is tangent to the distance vision zone at any point along the upper and lower boundaries of the rotationally-asymmetrical progressive zone.
71. The method of claim 60, wherein the rotationally-asymmetrical progressive zone has a surface that provides a power addition profile, along the vertical meridian, which is defined by two or more linear functions of equation (1) or by equation (2) or (3)

$$\begin{cases} p(x) = b_1 + k_1 x & 0 \le x < x_1 \\ p(x) = b_2 + k_2 x & x_1 \le x < x_2 \\ \vdots & \\ p(x) = b_i + k_i x & x_{i-1} \le x < x_i \\ \vdots & \end{cases} \tag{1}$$

$$p(x) = \frac{A}{2} \cdot \cos\left(\frac{x}{X_o}\pi\right) + \frac{A}{2} \tag{2}$$

$$p(x) = A \cdot \left[1 - \left(\frac{x}{X_o} \right)^n \right] \qquad (3)$$

in which p(x) is an added power at a radial distance of x from the radial center; b_i is a coefficient which is the intercept of a linear line; k_i is the rate of change of the added power as function of the distance from the radial center; A is the maximum added power; X_o is a radial distance between the radial center and the optical axis; and n is any number which can be an integer or non-integer larger than 1 but smaller than or equal to 10.